

REMARKS

The above amendment with the following remarks is submitted to be fully responsive to the Official Action of October 16, 2003. Reconsideration of this application in light of the amendment and the allowance of this application are respectfully requested.

Claims 12-20 were pending in the present application prior to the above amendment. In response to the Office Action, claim 12 has been further amended. Therefore, claims 12-20 are still pending in the present application and are believed to be in proper condition for allowance.

Referring now to the Office Action, claims 12, 15, 18, 19, and 20 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,460,785 to Popp. The Examiner asserts that Popp discloses a fuel injector including a substantially tubular retainer, a nozzle housing, a nozzle shank, an interference fit, and a nozzle sleeve. However, the Applicants note that independent claim 12, as amended in the response to the previous Office Action, specifically recites an integral nozzle shank integrated with the nozzle housing, the integral nozzle shank having an elongated shape in which a longitudinal axial dimension of the integral nozzle shank is larger than the diameter of the outer peripheral surface thereof. Clearly, Popp, even when interpreted in the manner suggested by the Examiner, includes a nozzle shank which is shaped as an annular ring that does not meet the recited proportions of claim 12, and claims 15, 18, 19 and 20 that ultimately depend from claim 12. Therefore, the Applicants content that this rejection is improper and that the cited Popp reference fails to "teach every aspect of the claimed invention" as required under 35 U.S.C. § 102. (See MPEP §§ 706.02 and 2131). Therefore, the withdrawal of this rejection is respectfully requested.

Referring again to the Office Action, claims 12-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Popp noted above. In particular, the Examiner asserts that Popp discloses two piece nozzle housing and nozzle shank and that it would have been obvious to one of ordinary skill in the art to provide an integral

nozzle housing and nozzle shank. With respect to claims 13, 14, 16, and 17, the Examiner asserts that the ranges of the interference fit would have been obvious as well. The Applicants respectfully disagree.

As previously submitted, Popp fails to suggest the provision of an interference fit between sleeve 58 and nose piece 38. The interference fit as taught in Popp is between the nozzle 40 and nose piece 38, the suggested interference fit not being positioned to prevent combustion gas from entering the space between sleeve 58 and sleeve 36. In this regard, Popp discloses the use of an O-ring seal 95 for this purpose. (See Popp, Col. 9, lines 29-65). Moreover, the Popp reference clearly and specifically teaches away from the Examiner's suggested modification to integrate the sleeve 58 and the nozzle 40 together. In particular, Popp teaches that the nozzle 40 may be integrally provided on the nose piece 38, and not sleeve 58. (See Popp, Col. 4, lines 51-54 and MPEP §2141.02). Thus, the Popp reference clearly does not teach, or otherwise suggest, integration of the nozzle 40 to the sleeve 58. Therefore, in contrast with the Examiner's assertion, the small annular ring disclosed by Popp reference as nozzle 40 does not function as a nozzle shank to receive a valve element as recited in the present claim, and there are no motivations or teachings or suggestions to otherwise modify the sleeve 58 of Popp in the manner suggested by the Examiner. In this regard, the Examiner appears to be engaging in hindsight reconstruction in view of the Applicants disclosure which has been deemed to be improper. Therefore, in view of the above, the reconsideration and withdrawal of this rejection relative to claims 12, 15, 18, 19 and 20 is respectfully requested.

In addition, with respect to claims 13, 14, 16, and 17, these claims are believed to be in proper condition for allowance in that they depend from what is believed to be allowable base claim 12. In addition, each dependent claim is believed to be allowable for the subject matter recited therein since the limitations recited therein are not shown, taught, or otherwise suggested by the prior art of record. Applicants again respectfully disagree with the Examiner's assertion that routine skill of the art can make up for the shortcomings of the Popp reference relative to the important structural and dimensional

limitations of these dependent claims. Therefore, the withdrawal of this rejection relative to the noted dependent claims is also respectfully requested.

However, to more clearly define the present invention, independent claim 12 has been amended to specifically recite that the fuel injector is a closed nozzle type. Clearly, the Popp reference does not disclose such a type of injector as now recited. In addition, claim 12 has also been amended to specifically recite that the integral nozzle shank includes an elongated valve cavity that is adapted to receive a valve element therein, and further includes plurality of injection holes at the tip of the nozzle shank. Furthermore, claim 12 has been also amended to specifically recite that the nozzle shank is adapted to spray fuel when the valve element is moved within the elongated valve cavity. Clearly, the injector disclosed in Popp is of the open nozzle type having only one injection hole where the valve element is moved out of the sleeve to allow injection of fuel. Therefore, as the cited Popp reference fails to disclose, teach, or otherwise suggest the limitations further recited in the above amendment, the allowance of the present claims is respectfully requested.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. However, if the Examiner deems that any issue remains after considering this response, he is invited to call the undersigned to expedite the prosecution and work out any such issue by telephone.

Respectfully submitted,



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